Microcomputing's 1982 Article Index

APPLE

Rubik's Cube Demystified	Cooper	28	Jan
Uncovering Earth's History	Gunther	60	Jan
Red Hot Computing	Ward	68	Jan
The Toxic Apple	Gurba, Deininger, Berger	86	Jan
Spotlight on the Starwriter	Borgenson	112	Jan
Crae	Elliott	205	Jan
Apple to Earth	Wilson	30	Feb
Pascal Graphics in a Flash	Florini	70	Feb
Pascal in Space	Darr	72	Feb
A Fully Graphic Apple	Deininger	104	Feb
Color Code Combo	Bishop	108	Feb
Dits and Dahs	Carter	130	Feb
Three Mile Island	Stephenson	180	Feb
VisiTerm	Brieger	181	Feb
Apple-Doc	Keenliside	188	Feb
Falcons	Vose	203	Mar
Easywriter and Easymailer	Shuck	204	Mar
VisiPlot and VisiTrend	Brieger	210	Mar
Pascal Meets Instant Insanity	Kan	84	Apr
A Basic Solution to Definite Integrals	Pruetz	92	Apr
The Data Reporter	Moskowitz	198	Apr
SuperScribe II	Berenbon	207	Apr
Hebrew II	Brieger	207	Apr
Trend-Spotter	Glau	210	Apr
Print II	Gonzalez	157	May
Inventory Management System	Glau	158	May
Ampergraph	Elliot	162	May
Apple Screen Gets New Look	Abrams	46	Jun
Graphics Are Forever	Brown	92	Jun
Zardax	Goodfellow	175	Jun
Word Handler	Schmeltz	178	Jun
Ram It On The Apple	Magee	108	Jul
Apple Aids	Elliott	156	Jul
Alien Lander, Retro Ball	Bobo	158	Jul
Desktop Plan II	Brieger	162	Jul
Equip Your Apple for the Challenge	Heilmann	34	Aug
Say It Again, Atari	Commander	100	Aug
Wizardry	Bobo	155	Aug
Amperdump	Elliott	162	Aug
Zoom Grafix	Bayer	162	Aug
Beyond 64K for the Apple	Black	74	Sep
A Number Pad for Apple II Users	King	80	Sep
Black Friday	Baker	88	Sep
Visidex	Brieger	155	Sep
P-Lisp	Lebow	156	Sep
Quick Trace	Gonzalez	158	Sep
Apple Spice	Goodfellow	162	Sep
Protect Your Small Business	Schou & Rubin	45	Oct
Lighten Your Search	Hyman	60	Oct
Microwave	Hansen	84	Oct
Conquering The Cube	Cooper	94	Oct
Invest in Your Apple	Glau	116	Oct
Ag Disk: Financial Management Series One	Gonzalez	174	Oct
Apple's Magic VisiCalc Formulas	Crum	62	Nov
A Best-Selling Program	McKinnon	69	Nov
Ali Baba and the Forty Thieves	Prill	86	Nov
Juggler	Hansen	87	Nov
Shuffleboard	Hansen	87	Nov
Apple Dos Revealed	Black	102	Nov
Word Juggler	Crom	186	Nov
Versaform	Glau	188	Nov
Apple Flasher	Schmeltz	191	Nov
Basic'	Goodfellow	194	Nov
Firebug	Hansen	78	Dec
Whoa, Apple Video	Marley	98	Dec
Don't Gum Up the Works!	Rogers	100	Dec
THE WORD Processor	Gonalez	173	Dec
Super Text 40/80	Goodfellow	174	Dec
Time Manager	Bobo	178	Dec

APPLICATIONS

Expand Your Horizon	Corry	118	Jan
A Fully Graphic Apple	Deininger	104	Feb
The Lazy Man's DBM	Rose	118	Feb
Dits and Dahs	Carter	130	Feb
Basic Random-File Record Keeping	Hesser	38	Mar
Thank You for Your Order	Nelson	64	Mar
A Basic Solution to Definite Integrals	Pruetz	92	Apr
Disk Master	Baker	56	Jun
Put a Celestial Navigator in Your Pocket	Zucconi	112	Jun
Osborne: Behind Guerrilla Lines	Kline	42	Jul
Fowl Play	Crossman	44	Aug
Beat the IRS	Embry	58	Aug
Micro Money Maker	Najjar	62	Sep
Lighten Your Search	Hyman	60	Oct
Micros in a New Light	Gupton	36	Nov
Micros Find a Place Under the Sun	Stryker	42	Nov
A Best-Selling Program	McKinnon	69	Nov
Invest in Your Apple	Glau	116	Nov
Kaypro Goes to Washington	Derfler	68	Dec

ATARI

Freedom From Text Editor Tyranny	Kemp	72	Mar
Text Wizard	Derfler	206	Mar
Alternative to Atari's Disk System	Douchant	131	Apr
Make Music with the Atari	Colsher	80	Jun
Atari Gets Serious	McFadden	118	Jun
Enhance Atari I/O Capabilities	Basseler	28	Aug
Say it Again, Atari!	Commander	100	Aug
The Portable Atari	Shuldman	84	Sep
Black Friday	Baker	88	Sep
Atari Space Invaders	Colsher	104	Sep
Galactic Chase	Prill	105	Sep
Educational Software for Kids	Prill	86	Oct
Trouble-Free Atari Cassette Use	Carmichael	108	Oct
Ali Baba and the Forty Thieves	Prill	86	Nov
A Serious Game Machine	Prill	88	Nov
Nukewar and B-1 Nuclear Bomber	Prill	78	Dec
Atari Runs Silent, Runs Deep	Colsher	80	Dec
Conquering the Cube	Coffey	84	Dec

BUSINESS

Database Scorecard	Akers	46	Apr
Getting Down to Business with Local Area Networks	Torode	32	Jun
H-89 to the Rescue!	Hufnagel	48	Jun
A Printer Solution for the H89	Hassall	52	Jul
Beat the IRS	Embry	58	Aug
Micro Money-Maker	Najjar	62	Sep

Microcomputing's 1982 Article Index

APPLE

Rubik's Cube Demystified	Cooper	28	Jan
Uncovering Earth's History	Gunther	60	Jan
Red Hot Computing	Ward	68	Jan
The Toxic Apple	Gurba, Deininger, Berger	86	Jan
Spotlight on the Starwriter	Borgenson	112	Jan
Crae	Elliott	205	Jan
Apple to Earth	Wilson	30	Feb
Pascal Graphics in a Flash	Florini	70	Feb
Pascal in Space	Darr	72	Feb
A Fully Graphic Apple	Deininger	104	Feb
Color Code Combo	Bishop	108	Feb
Dits and Dahs	Carter	130	Feb
Three Mile Island	Stephenson	180	Feb
VisiTerm	Brieger	181	Feb
Apple-Doc	Keenliside	188	Feb
Falcons	Vose	203	Mar
Easywriter and Easymailer	Shuck	204	Mar
VisiPlot and VisiTrend	Brieger	210	Mar
Pascal Meets Instant Insanity	Kan	84	Apr
A Basic Solution to Definite Integrals	Pruetz	92	Apr
The Data Reporter	Moskowitz	198	Apr
SuperScribe II	Berenbon	207	Apr
Hebrew II	Brieger	207	Apr
Trend-Spotter	Glau	210	Apr
Print II	Gonzalez	157	May
Inventory Management System	Glau	158	May
Ampergraph	Elliot	162	May
Apple Screen Gets New Look	Abrams	46	Jun
Graphics Are Forever	Brown	92	Jun
Zardax	Goodfellow	175	Jun
Word Handler	Schmeltz	178	Jun
Ram It On The Apple	Magee	108	Jul
Apple Aids	Elliott	156	Jul
Alien Lander, Retro Ball	Bobo	158	Jul
Desktop Plan II	Brieger	162	Jul
Equip Your Apple for the Challenge	Heilmann	34	Aug
Say It Again, Atari	Commander	100	Aug
Wizardry	Bobo	155	Aug
Amperdump	Elliott	162	Aug
Zoom Grafix	Bayer	162	Aug
Beyond 64K for the Apple	Black	74	Sep
A Number Pad for Apple II Users	King	80	Sep
Black Friday	Baker	88	Sep
Visidex	Brieger	155	Sep
P-Lisp	Lebow	156	Sep
Quick Trace	Gonzalez	158	Sep
Apple Spice	Goodfellow	162	Sep
Protect Your Small Business	Schou & Rubin	45	Oct
Lighten Your Search	Hyman	60	Oct
Microwave	Hansen	84	Oct
Conquering The Cube	Cooper	94	Oct
Invest in Your Apple	Glau	116	Oct
Ag Disk: Financial Management Series One	Gonzalez	174	Oct
Apple's Magic VisiCalc Formulas	Crum	62	Nov
A Best-Selling Program	McKinnon	69	Nov
Ali Baba and the Forty Thieves	Prill	86	Nov
Juggler	Hansen	87	Nov
Shuffleboard	Hansen	87	Nov
Apple Dos Revealed	Black	102	Nov
Word Juggler	Crom	186	Nov
Versaform	Glau	188	Nov
Apple Flasher	Schmeltz	191	Nov
Basic'	Goodfellow	194	Nov
Firebug	Hansen	78	Dec
Whoa, Apple Video	Marley	98	Dec
Don't Gum Up the Works!	Rogers	100	Dec
THE WORD Processor	Gonalez	173	Dec
Super Text 40/80	Goodfellow	174	Dec
Time Manager	Bobo	178	Dec

APPLICATIONS

Expand Your Horizon	Corry	118	Jan
A Fully Graphic Apple	Deininger	104	Feb
The Lazy Man's DBM	Rose	118	Feb
Dits and Dahs	Carter	130	Feb
Basic Random-File Record Keeping	Hesser	38	Mar
Thank You for Your Order	Nelson	64	Mar
A Basic Solution to Definite Integrals	Pruetz	92	Apr
Disk Master	Baker	56	Jun
Put a Celestial Navigator in Your Pocket	Zucconi	112	Jun
Osborne: Behind Guerrilla Lines	Kline	42	Jul
Fowl Play	Crossman	44	Aug
Beat the IRS	Embry	58	Aug
Micro Money Maker	Najjar	62	Sep
Lighten Your Search	Hyman	60	Oct
Micros in a New Light	Gupton	36	Nov
Micros Find a Place Under the Sun	Stryker	42	Nov
A Best-Selling Program	McKinnon	69	Nov
Invest in Your Apple	Glau	116	Nov
Kaypro Goes to Washington	Derfler	68	Dec

ATARI

Freedom From Text Editor Tyranny	Kemp	72	Mar
Text Wizard	Derfler	206	Mar
Alternative to Atari's Disk System	Douchant	131	Apr
Make Music with the Atari	Colsher	80	Jun
Atari Gets Serious	McFadden	118	Jun
Enhance Atari I/O Capabilities	Basseler	28	Aug
Say it Again, Atari!	Commander	100	Aug
The Portable Atari	Shuldman	84	Sep
Black Friday	Baker	88	Sep
Atari Space Invaders	Colsher	104	Sep
Galactic Chase	Prill	105	Sep
Educational Software for Kids	Prill	86	Oct
Trouble-Free Atari Cassette Use	Carmichael	108	Oct
Ali Baba and the Forty Thieves	Prill	86	Nov
A Serious Game Machine	Prill	88	Nov
Nukewar and B-1 Nuclear Bomber	Prill	78	Dec
Atari Runs Silent, Runs Deep	Colsher	80	Dec
Conquering the Cube	Coffey	84	Dec

BUSINESS

Database Scorecard	Akers	46	Apr
Getting Down to Business with Local Area Networks	Torode	32	Jun
H-89 to the Rescue!	Hufnagel	48	Jun
A Printer Solution for the H89	Hassall	52	Jul
Beat the IRS	Embry	58	Aug
Micro Money-Maker	Najjar	62	Sep

What You Didn't Know About NEC Spinwriter ... Stryker 32 Oct
Super Problem-Solver ... Vose 38 Oct
Protect Your Small Business ... Schou and Rubin 45 Oct
Apple's Magic VisiCalc Formulas ... Crom 62 Nov

COMMODORE

Computer/Video Disk Combo That Really Works ... Anderson & Carr 102 Jan
The Revealing Truth About PET's Memory ... Trahan 132 Jan
Putting PET to the Test ... Stone 146 Jan
Flash Attack Software Review ... Kapsch 206 Jan
Disk Master ... Baker 56 Jun
Black Friday ... Baker 88 Sep
Dueling Joysticks ... Grockett 100 Sep
Snakman Software Review ... Price 104 Sep
Squeeze the Most Out of Your VIC ... Knapp 88 Oct
Micros Find a Place Under the Sun ... Stryker 42 Nov
A Big Boost for First-Time Users ... Dolce 74 Dec
The ARROW ... Vandrew 173 Dec

CONSTRUCTION PROJECTS

Computer/Video Disk Combo That Really Works ... Anderson & Carr 102 Jan
Upgrade Your IDS Printer ... Noeth 110 Jan
RAM Dynam ... Wachter 122 Feb
Spreading the Good Word of Computing ... Messersmith 122 Mar
A Pennypinching Video Display ... McLaurin 64 Apr
A Man's Computerized Home Is His Castle ... Jones 90 Jul
Data Loader for the S-100 ... Ball 54 Aug
A Super Synthesizer ... Parry 82 Aug
In Step with Heath H-8 ... Brookshear 74 Oct
The Intelligent Toaster ... Robillard 46 Nov
The Intelligent Toaster ... Robillard 52 Dec
Break Out with this Sinclair Interface ... Auyer 108 Dec

CP/M

Word Software Review ... McWilliams 182 Feb
Eliza—A Software Classic for Your Micro ... Parsons 38 Apr
Diagnostics II Software Review ... Evans 155 May
Disk Doctor, Diagnostics II Review ... Coudal 173 Jun
Spell Software Review ... Perelman 162 Jul
Submit to CP/M ... Barbour 64 Oct
CP/M Table-Setter ... Derfler 70 Oct
dBase II Software Review ... Lightfoot 174 Oct
Catalog V4.12 ... Barbier 158 Sep
A Super CP/M Utility ... Lutz 122 Nov

EDUCATION

Cowboys and Computing ... Russell 82 Mar
Logo: Not Just for Kids ... Nelson 96 Mar
Computo, Computas, Computat ... Lippman 136 Mar
Why Johnny Can't Compute ... Botterell 146 Apr
Class of '82 ... Prentice 32 Sep
Micros on Campus ... Madron 36 Sep

GAMES

Rubik's Cube Demystified ... Cooper 28 Jan
First Aid for Cuber's Thumb ... Turvill 32 Jan
Color Code Combo ... Bishop 108 Feb
Alphanumeric Abracadabra ... Lindenberger 56 Aug
Black Friday ... Baker 88 Sep
Atari Space Invaders ... Colsher 104 Sep
Snakman ... Price 104 Sep
Galatic Chase ... Prill 105 Sep
Munchkin and Invaders ... Hassall 105 Sep
Microwave ... Hansen 84 Oct
Computer Stocks and Bonds ... Prill 85 Oct
Educational Software for Kids ... Prill 86 Oct
Squeeze the Most Out of Your VIC ... Knapp 88 Oct
Conquering the Cube (Apple) ... Cooper 94 Oct
Ali Baba and the Forty Theives ... Prill 86 Nov
Juggler ... Hansen 87 Nov
Shuffleboard ... Hansen 87 Nov
A Serious Game Machine ... Prill 88 Nov
Conquering the Cube (Heath) ... Hodsdon 93 Nov
Nukewar and B-1 Nuclear Bomber ... Prill 78 Dec
Firebug ... Hansen 78 Dec
Atari Runs Silent, Runs Deep ... Colsher 80 Dec
Conqering the Cube (Atari) ... Coffey 84 Dec

GENERAL INTEREST

Bag It ... Reid 145 Jan
The Final Microcomputer Frontier ... Edwards 36 Mar
Robots, Checkers and Learning ... Barbier 44 Apr
Future Trends Take Shape at NCC ... Derfler 38 Sep
Us Festival Report ... Canale 98 Nov

GRAPHICS

Changing Chips in Midstream ... Wolfe 96 Jan
Pascal Graphics in a Flash ... Florini 70 Feb
A Fully Graphic Apple ... Deininger 104 Feb
Taming the Tiger ... Kemp 84 Mar
A Rainbow of Colors for the S-100 ... Lapsley 68 Jun
Graphics Are Forever ... Brown 92 Jun
This Printer Builds Character(s) ... Ohs 104 Jul
What You Didn't Know About NEC Spinwriter ... Stryker 32 Oct
Squeeze the Most Out of Your VIC ... Knapp 88 Oct
Plotting with Microline 80 ... Galler 56 Nov

HARDWARE MODIFICATIONS

Power Jump for the 1802 ... McCorkle 152 Jan
For the Thick-Skinned Computerist ... Penn & Stockburger 100 Feb
Olympia's Switch Hitter ... Barbier 88 Apr
Alternative to Atari's Disk System ... Douchant 131 Apr
The H89 Sounds Off ... Hufnagel 56 May
RAM it on the Apple ... Magee 108 Jul
The Portable Atari ... Slmkman 84 Sep
Dueling Joysticks ... Grockett 100 Sep

HARDWARE REVIEWS

Changing Chips in Midstream ... Wolfe 96 Jan
Part I—Colored Printers from IDS ... Hansen 110 Mar
On the Go With the Osborne ... Roberts 70 Apr
Survival Kit for Printer Buyers (Centronics 739) ... Hansen 40 May
A Shocking Look at Voltage Suppressors ... Vose 72 May
Corvus Springs a New Concept ... Wohlmuth 26 Jun
Survival Kit for Printer Buyers (Epson, MX-80, MX-100) ... Hansen 34 Jun
A Rainbow of Colors for the S-100 (Spectrum graphics board) ... Lapsley 68 Jun
Osborne: Behind Guerrilla Lines (Osborne) ... Kline 42 Jul
Attache Computing (Panasonic RL H 1000) ... Ramer 84 Jul
An American Daisywheel You Can Afford (Smith-Corona TP-1) ... Derfler 67 Aug
Say It Again, Atari (Voice Box) ... Commander 100 Aug
Micros Are Sounding Good (Votrax Type 'N Talk) ... Hansen 104 Aug
Everything You Need on a Single Board (Colonial Data Systems' SB-80) ... Kepner 58 Sep
The One Printer Solution (Centronics Printstation 350) ... 70 Sep
Beyond 64K for Apple (Saturn Systems memory boards) ... Black 74 Sep
A Quick and Dirty Input Port ... Nagurney 110 Sep
The Enhanced 80 (LNW-80) ... Eisinger 58 Oct
IBM Update ... Pozar 98 Oct
Putting the Sharp PC Through Its Paces ... Daniel 74 Nov
A Smart Way to Communicate (Bizcomp Modem) ... Francis 116 Nov
Kaypro II—The Perfect Traveling Companion ... Char 66 Dec
A Big Boost for First-Time Users ... Dolce 74 Dec

HEATH

Tapping into the Brain ... Bradley 72 Jan
Heath's Hidden Time-Saver ... Cohn 150 Jan
Touch Typist Software Review ... Hassall 203 Jan
Get Control of Your Cursor ... Hesse 78 Feb
Roots89 Software Review ... Coudal 184 Feb
Lucidata Pascal Software Review ... Shoemaker 203 Apr
The H89 Sounds Off ... Hufnagel 56 May
Mychess Software Review ... Bowers 153 May
H89 to the Rescue! ... Grubbs 48 Jun
A Printer Solution for the H89 ... Hassall 52 Jul
The Heath Memory Alternative ... Greene 100 Jul
Lucidata Pascal Software Review ... Shoemaker 159 Jul
Beat the High Cost of H-88/89 Memory Expansion ... Howard 80 Aug
Introduction to Basic Programming Software Review ... Syer 176 Oct
Conquering the Cube ... Hodson 93 Nov
Rx for Your Disk Drive Ills ... Thompson 40 Dec

IBM

IBM Update ... Pozar 98 Oct
Get Your Library in Order ... Fant 48 Dec

LANGUAGES

Computing, Lisp and You ... Allen 28 Feb
A Language for Everyone ... Dawkins 46 Feb
Is Mumps the Cure? ... Walters 54 Feb
Forth for the Novice ... White 62 Feb
Pascal Graphics in a Flash ... Florini 70 Feb
Pascal in Space ... Darr 72 Feb
Get Control of Your Cursor ... Hesse 76 Feb
Name That Type ... Roberts 80 Feb
Logo: Not Just for Kids ... Nelson 96 Mar
Pascal Meets Instant Insanity ... Kan 84 Apr
Basic and Pascal Square Off ... Summer 140 Apr
Apple Logo Spoken Here ... 76 Jun

MEMORY EXPANSION

The Heath Memory Alternative ... Greene 100 Jul
Beat The High Cost of H-88/89 Memory Expansion ... Howard 80 Aug
Atari in Wonderland ... May 50 Sep

MUSIC/SPEECH SYNTHESIS

The H-89 Sounds Off ... Hufnagel 56 May
Make Music with the Atari ... Colsher 80 Jun
A Super Synthesizer ... Parry 82 Aug

Say It Again, Atari ... Commander 100 Aug
Micros Are Sounding Good ... Hansen 104 Aug

NORTH STAR

Expand Your Horizon ... Corry 118 Jan
Backslashes to Colons ... Bryant 136 Jan
Treat Your File Directory as Data ... Lewis 142 Jan
Thank You For Your Order ... Nelson 64 Mar
Cowboys and Computing ... Russell 82 Mar
Recover That Lost Code ... Prisco 92 Mar
Compress It! ... Gustafson 88 May
Magic Typewriter ... Bryant 152 Aug

OSBORNE

On The Go With Osborne I ... Roberts 70 Apr
Why Pay More for Word Processing? ... McGrath 76 Apr
Osborne: Behind Guerrilla Lines ... Kline 42 Jul

PASCAL

Pascal Graphics in a Flash ... Florini 70 Feb

Pascal in Space ... Darr 72 Feb
Name That Type ... Roberts 80 Feb
Pascal Meets Instant Insanity ... Kan 84 Apr
Pascal I/O Interfacing Made Easy ... Stiegler 94 May
Equip Your Apple for the Challenge ... Heilmann 34 Aug

PRINTERS

Upgrade Your IDS Printer ... Noeth 110 Jan
Spotlight on the Starwriter ... Borgenson 112 Jan
Letter-Quality Printer for the Budget-Minded ... Colsher 114 Jan
Parti-Colored Printers From IDS ... Hansen 110 Mar
Olympia's Switch-Hitter ... Barbier 88 Apr
Survival Kit for Printer Buyers (Centronics 739) ... Hansen 40 May
Survival Kit for Printer Buyers (Epson MX-80, MX-100) ... Hansen 34 Jun
A Printer Solution for H89 ... Hassall 52 Jul
This Printer Builds Character(s) (Base 2) ... Ohs 104 Jul
An American Daisywheel You Can Afford (Smith-Corona TP-1) ... Derfler 67 Aug
The One Printer Solution (Centronics' Printstation 350) ... 70 Sep
Plotting With Microline 80 ... Galler 56 Nov

PROGRAMMING TECHNIQUES

The Sorcerer Reveals Hidden Commands ... McCabe 128 Jan
Designer's Delight ... Carew 54 Mar
Pascal Meets Instant Insanity ... Kan 84 Apr
What's So Difficult About ZX-80 Machine Code? ... Redman 54 Jun
Numeric Storage—As Easy as 1, 2, 3 ... Knecht 58 Jul
Tune Up Your Basic Programs ... Seymour 128 Nov

RADIO SHACK

Changing Chips in Midstream ... Wolfe 96 Jan
Which Way Is Best? ... Graue 140 Jan
Color Code Combo ... Bishop 108 Feb
The Lazy Man's DBM ... Rose 118 Feb
Discat Software Review ... Newman 202 Mar
Tax/Saver Software Review ... Bobo 208 Mar
Floppy Doctor Software Review ... Derfler 206 Apr
Machine Code at Your Fingertips ... Kraushaar 136 Apr
Memory Size—Who Needs It? ... Lewis 60 May
The Documenter Software Review ... McGarvey 151 May
Relief for Problem Spellers ... McFadden 98 Jun
Put a Celestial Navigator in Your Pocket ... Zucconi 112 Jun
Ultrados Software Review ... Berenbon 178 Jun
Newscript Software Review ... Douglass 152 Aug
Micro Money-Maker ... Najjar 62 Sep
Multidos Software Review ... Douglass 178 Oct

SCIENCE

Uncovering the Earth's History ... Gunther 60 Jan
Red Hot Computing ... Ward 68 Jan
Tapping into the Brain ... Bradley 72 Jan
Planetarium Shows with a Difference ... West 80 Jan
The Toxic Apple ... Gurba, Berger, Deininger 86 Jan
Apple to Earth ... Wilson 30 Mar
Atari Gets Serious ... McFadden 118 Jun
Equip Your Apple for the Challenge ... Heilmann 34 Aug

SINCLAIR

Exploring Sinclair's Tiny World ... Martin 80 May
What's So Difficult About ZX-80 Machine Code? ... Redman 54 Jun
Sinclair Does It Again! ... Edmondson 76 Aug
Break Out with This Sinclair Interface ... Auyer 108 Dec

SOFTWARE PIRACY

How Safe Is Your Software? ... Commander & Vose 60 Jul
Software Protection—A Legal Overview ... Kamenetz 64 Jul
Piracy—A Serious Threat or Unfounded Fear? ... Grout 76 Jul

SOFTWARE REVIEWS

Touch Typist ... Hassall 203 Jan
Crae ... Elliott 205 Jan
Flash Attack ... Kapsch 206 Jan
System 3 ... Reid 210 Jan
Three Mile Island ... Stephenson 180 Feb
VisiTerm ... Brieger 181 Feb
Word ... McWilliams 182 Feb
Roots89 ... Coudal 184 Feb
Castle Wolfenstein ... Maloney 186 Feb
Apple-Doc ... Keenliside 188 Feb
Magic Spell ... Phelps 200 Mar
Discat ... Newman 202 Mar
Falcons ... Vose 203 Mar
Easywriter and Easymailer ... Shuck 204 Mar
Text Wizard ... Derfler 206 Mar
Tax/Saver ... Bobo 208 Mar
VisiPlot and VisiTrend ... Brieger 210 Mar
Eliza—A Software Classic for Your Micro ... Parsons 38 Apr
The Data Reporter ... Moskowitz 198 Apr
Lucidata Pascal ... Shoemaker 203 Apr
Floppy Doctor ... Derfler 206 Apr
SuperScribe II ... Berenbon 207 Apr
Hebrew II ... Brieger 207 Apr
Trend-Spotter ... Glau 210 Apr
The Documenter ... McGarvey 151 May
Mychess ... Bowers 153 May
Diagnostics II ... Evans 155 May
Print II ... Gonzalez 157 May
Full Disk Sort/Merge ... Doonan 158 May
Inventory Management System ... Glau 158 May
Ampergraph ... Elliott 162 May
Disk Doctor, Diagnostics II ... Coudal 173 Jun
Biofeedback Package ... Small 174 Jun
ZARDAX ... Goodfellow 175 Jun
Ultrados ... Berenbon 178 Jun
Word Handler ... Schmeltz 178 Jun
Apple Aids ... Elliott 156 Jul
Alien Lander, Retro-Ball ... Bobo 158 Jul
Lucidata Pascal ... Shoemaker 159 Jul
Desktop Plan II ... Brieger 162 Jul
Spell ... Perelman 162 Jul
Finely-Tuned Basic Compiler ... Lindsay 48 Aug
Magic Typewriter ... Bryant 152 Aug
Newscript ... Douglass 152 Aug

Wizardry	Bobo	155	Aug
Amperdump	Elliott	162	Aug
Zoom Grafix		162	Aug
Visidex	brieger	155	Sep
P-Lisp	Lebow	156	Sep
Quick Trace	Gonzalez	158	Sep
Catalog V4.12	Barbier	158	Sep
Apple Spice	Goodfellow	162	Sep
Ag Disk: Financial Management	Gonzalez	174	Oct
dBase II Series One	Lightfoot	174	Oct
Introduction to Basic Programming	Syer	176	Oct
Multidos	Douglass	178	Oct
Word Juggler	Crom	186	Nov
Versaform	Glau	188	Nov
Apple Flasher	Schmeltz	191	Nov
Basic'	Goodfellow	194	Nov
THE WORD Processor	Gonzalez	173	Dec
The ARROW	Vandrew	173	Dec
Super-Text 40/80	Goodfellow	174	Dec
Time Manager	Bobo	178	Dec

SORCERER

The Sorcerer Reveals Hidden Commands	McCabe	128	Jan
System-3 Software Review	Reid	210	Jan
Taming the Tiger	Kemp	84	Mar
Reverse Video for the Sorcerer	Smith	98	May
Sorcerer Secrets Revealed	Lewis	84	Jun

SWTP

For the Thick-Skinned Computerist	Stockburger	100	Feb
RAM Dynam	Wachter	122	Feb
68xx Secrets	Stark	84	Feb
Conquering the Cube	Cooper	94	Oct

TUTORIALS

Hex Table	LaPointe	145	Jan
Artificial Intelligence After 25 Years	Nelson	32	Apr
Sweet Sixteen—Micros Come of Age	Nelson	36	May
Information Retrieval—Quick and Dirty	Lesser	64	May
A Shocking Look at Voltage Suppressors	Vose	72	May
Operating System of the Future	Hughes	28	Jun
Apple DOS Revealed	Black	102	Nov
Aide for Harried Programmers	Donlon	132	Nov
Rx for Your Disk Drive Ills	Thompson	40	Dec
How To Keep Your Disk Drives Humming	Vose	41	Dec

UTILITIES

The Revealing Truth About PET's Memory	Trahan	132	Jan
Backslashes to Colons	Bryant	136	Jan
Which Way Is Best?	Grave	140	Jan
Treat Your File Directory as Data	Lewis	142	Jan
Putting PET to the Test	Stone	146	Jan
Heath's Hidden Time-Saver	Cohn	150	Jan
PIA Initialization	Embry	50	Mar
Recover That Lost Code	Prisco	92	Mar
Alternative to Atari's Disk System	Douchant	131	Apr
Machine Code at Your Fingertips	Kraushaar	136	Apr
Compress It!	Gustafson	88	May
Reverse Video for the Sorcerer	Smith	98	May
Apple Screen Gets a New Look	Abrams	46	Jun
Sorcerer Secrets Revealed	Lewis	84	Jun
Software Solution to a Hardware Headache	Murrell	120	Jun
Enhance Atari I/O Capabilities	Baseler	28	Aug
A Number Pad for Apple II Users	King	80	Sep
Submit to CP/M	Barbour	64	Oct
Trouble-Free Atari Cassette Use	Carmichael	108	Oct
Unlocking Kayprc's Secrets	Hickey	71	Dec
Make Your Micro Spell Out Cold, Hard Cash	Wolverton	92	Dec
Whoa, Apple Video	Marley	98	Dec
Don't Gum Up the Works!	Rogers	100	Dec

WORD PROCESSING

Freedom from Text Editor Tyranny	Multiv	72	Mar
Why Pay More for Word Processing?	McGrath	76	Apr
Sorcerer Secrets Revealed	Lewis	84	Jun
Software Solution to a Hardware Headache	Murrell	120	Jun

6800

PIA Initialization	Embry	50	Mar
Magic Spell Software Review	Phelps	200	Mar
Full Disk Sort/Merge Software Review	Doonan	158	May
Beat the IRS	Embry	58	Aug

CLASSIFIEDS

Classified advertisements are intended for use by persons desiring to buy, sell or trade used computer equipment. No commercial ads are accepted.

Two sizes of ads are available. The $5 box allows up to 5 lines of about 35 characters per line, including spaces and punctuation. The $10 box allows up to 10 lines. Minimize use of capital letters to save space. No special layouts allowed. Payment is required in advance with ad copy. We cannot bill or accept credit.

Advertising text and payment must reach us 60 days in advance of publication (i.e., copy for March issue, mailed in February, must be here by Jan. 1). The publisher reserves the right to refuse questionable or inapplicable advertisements. Mail copy with payment to **Classifieds, Microcomputing, Peterborough, NH 03458**. Do not include any other material with your ad as it may be delayed.

OSI C1P with SEB hires color graphics/memory board, RS-232, high-speed cassette, dual joysticks, OSI b/w monitor, Electronic Systems modem board, game programs, extensive documentation—$990. Must sell for college. Sean Weist, 1000 East 5th St., Fowler IN 47944.

For sale: SS-50, 6800-6809 equipment and software. Send SASE for list. Roy Hawkins, W. 341 S. 5065 McCoy Parkway, Dousman, WI 53118.

ZX81/TS1000 Users: Free newsletter and software available from Z-WEST User's Group. No SASE, no money—just your name and address. Write us at PO Box 2411, Vista, CA 92083.

Used Heath H-8 memory board, I/O card, terminal, software and complete H-8 system. Ten to 50 percent off list price. Send for free listing. D. Wong, Box 406, Croton Falls, NY 10519.

MICRO QUIZ

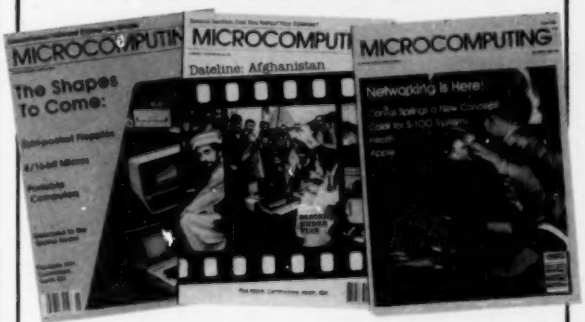
Analysis of Algorithms

How many times is "MICRO" printed during the execution of the following program?

```
10 FOR I = -5 TO 5
20 IF ABS (I) <= 2 THEN GOTO 60
30 FOR J = (I+5) TO (I*I) STEP 2
40 IF I*J<= 0 THEN PRINT "MICRO"
50 NEXT J
60 NEXT I
```

(answer on page 88)

YOU MISSED IT!



But you still need that issue of *Microcomputing*.
Well, it's not too late to get it.
Send for your free Back Issue Catalog.
A complete listing, including editorial highlights.

You still need it.
And we've still got it.

YES, I want my free Back Issue Catalog for *Microcomputing*.

Name _____

Address _____

City _____ State _____ Zip _____

Microcomputing, Mail Order, 80 Pine St., Peterborough, NH 03458